

What is claimed is:

1. A dental implant apparatus with expandable sides for locking into a predrilled hole in bone comprising an upper conformal socket, a hollow expansion tube with a wall having alternating ribs and open spaces, and a lower retaining nut;

said hollow expansion tube compressible along a major axis by tightening a retaining compression screw through said conformal socket, said expansion tube and said retaining nut;

and said ribs expanding outward upon the tightening of said retaining compression screw.
2. A dental implant apparatus, as described in Claim 1, comprising outwardly expanding ribs with a thinned portion on said ribs bowing outward to a greater distance than the thicker portion of said ribs to prevent rotation of said dental implant apparatus during installation and use.
3. A dental implant apparatus, as described in Claim 1, comprising outwardly expanding ribs with a thinned portion on said ribs bowing outward to a greater distance than the thicker portion of said ribs to prevent rotation of said dental implant apparatus during installation and use, said thinned portions on said ribs alternating edges on alternate said ribs.
4. A dental implant apparatus, as described in Claim 1, comprising outwardly expanding ribs with a notched edge on said ribs bowing outward to a greater distance than the un-notched portion of said ribs to prevent rotation of said dental implant apparatus during installation and use.

5. A dental implant apparatus, as described in Claim 1, comprising outwardly expanding ribs with a notched edge on said ribs bowing outward to a greater distance than the un-notched edge of said ribs to prevent rotation of said dental implant apparatus during installation and use, said notched edges on said ribs alternating edges of alternate said ribs.

6. A dental implant apparatus, as described in Claim 1, comprising outwardly expanding ribs with narrowed portions on said ribs bowing to a smaller radius than the un-narrowed portions of said ribs to prevent rotation of said dental implant apparatus during installation and use.

7. A dental implant apparatus, as described in Claim 1, comprising outwardly expanding ribs with narrowed portions on said ribs bowing to a smaller radius than the un-narrowed portions of said ribs to prevent rotation of said dental implant apparatus during installation and use, said narrowed portions on said ribs alternating edges of alternate said ribs.

8. A dental implant apparatus, as described in Claim 1, comprising outwardly expanding ribs having edges parallel to the axis of said hollow expansion tube.

9. A dental implant apparatus, as described in Claim 1, comprising outwardly expanding ribs, said ribs having edges that spiral about the central axis of said hollow expansion tube.

10. A dental implant apparatus, as described in Claim 1, comprising a hollow expansion tube having a truncated conical shape to better mimic the normal root shape of a tooth.

11. A dental implant apparatus, as described in Claim 1, comprising outwardly expanding ribs with spaces through portions on said ribs forming spines extending to a greater diameter than the un-spaced portions of said ribs to prevent rotation of said dental implant apparatus during installation.
12. A dental implant apparatus, as described in Claim 1, comprising said retaining compression screw having a head with anti-rotational retaining means mating with the underside of a dental abutment.
13. A dental implant apparatus, as described in Claim 1, comprising said retaining compression screw having a head with slotted anti-rotational retaining means mating with a tongue on the underside of a dental abutment.
14. A dental implant apparatus, as described in Claim 1, comprising said retaining compression screw having a head with tapered, hexagonal anti-rotational retaining means mating with a tapered hexagonal recess in the underside of a dental abutment.
15. A dental implant apparatus as described in Claim 1, comprising perforations through said ribs to allow increased flexibility and interlocking bone growth.
16. A dental implant apparatus as described in Claim 1, comprising a bone growth promoting coating on portions of said implant.

Respectfully submitted.



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